

**AMENDMENTS TO THE CLAIMS**

The following listing of claims replaces all prior versions and listings of claims in the above-referenced application:

1           1.     (Currently amended)     A method for filtering a received signal in a  
2     wireless receiver, comprising:

3           providing a received signal to a multiple-stage baseband filter chain located  
4     between a downconverter and a demodulator, the multiple-stage baseband filter chain  
5     comprising an input, a variable gain amplifiers and an output; and

6           inverting the impedance of the received baseband signal in ~~the~~ a first stage of a  
7     multiple-stage baseband filter chain using an inductance applied at ~~the~~ an output of ~~the~~  
8     a first stage variable gain amplifier, the baseband filter chain arranged such that a  
9     feedback path loop is located between an output of ~~the~~ a variable gain transconductance  
10    amplifier and ~~the output an input of the filter chain~~ transconductance amplifier.

1           2.     (Currently amended)     The method of claim 1, wherein inverting the  
2     impedance of the received signal at the output of the first stage variable gain amplifier  
3     comprises using a voltage controlled current source to transform the inductance applied  
4     to the received signal to a capacitance.

1           3.     (Original)     The method of claim 2, further comprising implementing  
2     the voltage controlled current source as a pair of transconductance amplifiers.

1           4.     (Previously presented)     The method of claim 3, further comprising  
2     inserting a capacitance at the output of the filter chain.

1           5.     (Currently amended)     A low-noise baseband filter for a wireless  
2 receiver, comprising:

3                 a multiple-stage filter chain, a first stage of the multiple-stage filter chain  
4 comprising:

5                     an amplifier; ~~and~~

6                     an impedance inverter applied at the output of the amplifier and  
7 configured to transform inductance applied to a received baseband signal to a  
8 capacitance, the impedance inverter ~~having a feedback loop located between an~~  
9 ~~output of the amplifier and an output of the low-noise filter arranged such that a~~  
10 ~~feedback path is located between an output of a first transconductance amplifier~~  
11 ~~and an input of the first transconductance amplifier, the feedback path including~~  
12 ~~a second transconductance amplifier; and~~

13                     a bi-quad filter coupled to the output of the impedance inverter.

1           6.     (Canceled)

1           7.     (Currently amended)     The low-noise baseband filter of claim 5,  
2 wherein the impedance inverter further comprises:

3                 ~~a pair of transconductance amplifiers; and~~

4                 at least one capacitance coupled to the output of one of the first and second  
5 transconductance amplifiers.

1           8.     (Original)     The low-noise filter of claim 7, wherein the impedance  
2 inverter removes direct current (DC) offset present at the input of the amplifier.

1           9.     (Currently amended)     A portable transceiver, comprising:  
2                 a modulator configured to receive and modulate a data signal;  
3                 an upconverter configured to receive the modulated data signal and provide a  
4     radio frequency (RF) signal;  
5                 a transmitter configured to transmit the RF signal; and  
6                 a direct conversion receiver having a baseband filter chain including an  
7     amplifier, a bi-quad filter and an impedance inverter configured to transform inductance  
8     applied to a received signal to a capacitance, the impedance inverter having a feedback  
9     path loop located between an output of a first transconductance amplifier and an input  
10    of the first transconductance amplifier, the feedback path including a second  
11    transconductance amplifier ~~an output of the amplifier and an output of the filter.~~

1           10.    (Canceled)

1           11.    (Currently amended)     The portable transceiver of claim ~~10~~ 9,  
2     wherein the impedance inverter further comprises:  
3                 ~~a pair of transconductance amplifiers; and~~  
4                 at least one capacitance coupled to the output of one of the first  
5     transconductance amplifier[s].

1           12.    (Original)     The portable transceiver of claim 11, wherein the  
2     impedance inverter removes direct current (DC) offset present at the input of the  
3     amplifier.

1           13. (Currently amended) A portable transceiver, comprising:  
2           means for modulating a data signal;  
3           means for upconverting the modulated data signal and provide a radio frequency  
4 (RF) signal;  
5           means for transmitting the RF signal;  
6           means for converting a received signal to a baseband signal;  
7           means for amplifying the baseband signal; and  
8           means for inverting the impedance of the received baseband signal at the output  
9 of the means for amplifying means in a first stage of a multiple-stage baseband filter  
10 chain to transform inductance applied to ~~a~~ the received baseband signal to a  
11 capacitance, the means for inverting the impedance having a feedback path loop that  
12 bypasses the means for amplifying means.

1           14. (Original) The portable transceiver of claim 13, further comprising  
2 voltage controlled current source means for inverting the impedance of the received  
3 signal at the output of the amplifier to transform the inductance applied to the received  
4 signal to a capacitance.

1           15. (Currently amended) A system for removing direct current (DC)  
2 offset from a received signal, comprising:  
3           a variable gain amplifier configured to amplify a downconverted representation  
4 of a received radio frequency (RF) signal to generate an amplified RF baseband signal;  
5 and  
6           a gyrator-generated inductance applied at the output of the variable gain  
7 amplifier in a first stage of a multiple-stage baseband filter chain, the gyrator-generated  
8 inductance configured to transform inductance present at the output of the variable gain  
9 amplifier to a capacitance, the gyrator-generated inductance and the variable gain

10 amplifier arranged such that the amplified RF baseband signal is not applied at an input  
11 of the variable gain amplifier, the gyrator-generated inductance implemented via a first  
12 transconductance amplifier having differential inputs and a second transconductance  
13 amplifier having a single input.

1 16. (Previously presented) The system of claim 15, wherein the gyrator-  
2 generated inductance adds a high pass filter pole that is not a function of the  
3 transconductance of the variable gain amplifier.

1 17. (Original) The system of claim 15, wherein the gyrator-generated  
2 inductance shunts excess DC current present at the output of the variable gain amplifier  
3 to ground.

1 18. (Original) The system of claim 15, wherein, at a frequency above a  
2 high-pass cutoff frequency, the gyrator-generated inductance appears as a high  
3 impedance at the output of the variable gain amplifier.